



SEQUENCE LISTING

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MCCALLUM, KIRK
FAN, ERMİ

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<140> 09/331,127

<141> 1999-10-19

<150> PCT/CA97/00969

<151> 1997-12-15

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<160> 28

<170> PatentIn Ver. 3.2

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 50 55 60
 Thr Gly Ser Leu Leu Lys Glu Thr Thr Gln Lys Trp Ala Asn Tyr Lys
 65 70 75 80
 Glu Lys Cys Leu Glu Asp Leu His Asn Arg Leu Ser Gly Ile Phe Cys
 85 90 95
 Asn Gly Thr Phe Asp Arg Tyr Val Cys Trp Pro His Ser Tyr Pro Gly
 100 105 110
 Asn Val Ser Val Pro Cys Pro Ser Tyr Leu Pro Trp Trp Asn Ala Glu
 115 120 125
 Ser Pro Gly Arg Ala Tyr Arg His Cys Leu Ala Gln Gly Thr Trp Gln
 130 135 140

Thr Arg Glu Asn Thr Thr Asp Ile Trp Gln Asp Glu Ser Glu Cys Ser
 145 150 155 160
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 Thr Leu Gln Leu Met Tyr Thr Val Gly Tyr Ser Val Ser Leu Ile Ser
 180 185 190
 Leu Phe Leu Ala Leu Thr Leu Phe Leu Phe Leu Arg Lys Leu His Cys
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 Thr Arg Asn Tyr Ile His Met Asn Leu Phe Ala Ser Phe Ile Leu Lys
 210 215 220
 Val Leu Ala Val Leu Val Lys Asp Met Val Ser His Asn Ser Tyr Ser
 225 230 235 240
 Lys Arg Pro Asp Asp Glu Ser Gly Trp Met Ser Tyr Leu Ser Glu Thr
 245 250 255
 Ser Val Ser Cys Arg Ser Val Gln Val Leu Leu His Tyr Phe Val Gly
 260 265 270
 Thr Asn His Leu Trp Leu Leu Val Glu Gly Leu Tyr Leu His Thr Leu
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 Leu Glu Pro Thr Val Phe Pro Glu Arg Arg Leu Trp Pro Lys Tyr Leu
 290 295 300
 Val Val Gly Trp Ala Phe Pro Met Leu Phe Val Ile Pro Trp Gly Phe
 305 310 315 320
 Ala Arg Ala His Leu Glu Asn Thr Arg Cys Trp Ala Thr Asn Gly Asn
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 Leu Lys Ile Trp Trp Ile Ile Arg Gly Pro Met Leu Leu Cys Val Thr
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 Val Asn Phe Phe Ile Phe Leu Lys Ile Leu Lys Leu Leu Ile Ser Lys
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 Lys Ser Thr Leu Leu Leu Ile Pro Leu Leu Gly Val His Glu Val Leu
 385 390 395 400
 Phe Thr Phe Phe Pro Asp Asp Gln Val Gln Gly Phe Ser Lys Arg Ile
 405 410 415
 Arg Leu Phe Ile Gln Leu Thr Leu Ser Ser Val His Gly Phe Leu Val
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 Ala Leu Gln Tyr Gly Phe Ala Asn Gly Glu Val Lys Ala Glu Leu Arg
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Lys Ser Trp Gly Arg Phe Leu Leu Ala Arg His Trp Gly Cys Arg Thr
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Cys Val Leu Gly Lys Asn Phe Arg Phe Leu Gly Lys Cys Ser Lys Lys
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Leu Ser Glu Gly Asp Gly Ser Glu Thr Leu Gln Lys Leu Arg Phe Ser
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Thr Cys Ser Ser His Leu Ala Ser Glu Thr Leu Gly Asp Val Gly Val
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Gln Pro His Arg Gly Arg Gly Ala Trp Pro Arg Gly Ser Ser Leu Ser
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| Ala Ser Phe Ile Leu Arg Thr Leu Ala Val Leu Val Lys Asp Val Val | |
| 35 40 45 | |
| ttc tac aac tct tac tcc aag agg cct gac aat gag aat ggg tgg atg | 192 |
| Phe Tyr Asn Ser Tyr Ser Lys Arg Pro Asp Asn Glu Asn Gly Trp Met | |
| 50 55 60 | |
| tcc tac ctg tca gag atg tcc acc tcc tgc cgc tca gtc cag gtt ctc | 240 |
| Ser Tyr Leu Ser Glu Met Ser Thr Ser Cys Arg Ser Val Gln Val Leu | |
| 65 70 75 80 | |
| ttg cat tac ttt gtg ggt gcc aat tac tta tgg ctg ctg gtt gaa ggc | 288 |
| Leu His Tyr Phe Val Gly Ala Asn Tyr Leu Trp Leu Leu Val Glu Gly | |
| 85 90 95 | |
| ctc tac ctc cac acg ctg ctg gag ccc aca gtg ctt cct gag agg cgg | 336 |
| Leu Tyr Leu His Thr Leu Leu Glu Pro Thr Val Leu Pro Glu Arg Arg | |
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| ctg tgg ccc ara tac ctg ctg ttg ggt tgg gcc ttc cct gtg cta ttt | 384 |
| Leu Trp Pro Xaa Tyr Leu Leu Leu Gly Trp Ala Phe Pro Val Leu Phe | |
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| gtt gta ccc tgg ggt ttc gcc cgt gca cac ctg gar aac aca ggg tgc | 432 |
| Val Val Pro Trp Gly Phe Ala Arg Ala His Leu Glu Asn Thr Gly Cys | |
| 130 135 140 | |
| tgg aca aca aat ggg aat aag aaa atc tgg tgg atc atc cga gga ccc | 480 |
| Trp Thr Thr Asn Gly Asn Lys Lys Ile Trp Trp Ile Ile Arg Gly Pro | |
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| aag ctt ctc att tct aag ctc aaa gct cat caa atg tgc ttc aga gat | 576 |
| Lys Leu Leu Ile Ser Lys Leu Lys Ala His Gln Met Cys Phe Arg Asp | |
| 180 185 190 | |
| tat aaa tac aga ttg gca aaa tca aca ctg gtc ctc att cct tta ttg | 624 |
| Tyr Lys Tyr Arg Leu Ala Lys Ser Thr Leu Val Leu Ile Pro Leu Leu | |
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667

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 Ala Ser Phe Ile Leu Arg Thr Leu Ala Val Leu Val Lys Asp Val Val
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 85 90 95
 Leu Tyr Leu His Thr Leu Leu Glu Pro Thr Val Leu Pro Glu Arg Arg
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Leu Leu Pro Gly Val His Glu Leu Pro Met Gly Ile Pro Ala Pro Trp
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Gly Thr Ser Pro Leu Ser Phe His Arg Lys Cys Ser Leu Trp Ala Pro
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Gly Arg Pro Phe Leu Thr Leu Val Leu Leu Val Ser Ile Lys Gln Val
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Thr Gly Ser Leu Leu Glu Glu Thr Thr Arg Lys Trp Ala Gln Tyr Lys
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Gln Ala Cys Leu Arg Asp Leu Leu Lys Glu Pro Ser Gly Ile Phe Cys
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Asn Gly Thr Phe Asp Gln Tyr Val Cys Trp Pro His Ser Ser Pro Gly
100 105 110

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115 120 125

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130 135 140

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Thr Ile Glu Asn Ala Thr Asp Ile Trp Gln Asp Ser Glu Cys Ser
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 545 550
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 Thr Gly Ser Leu Leu Glu Glu Thr Thr Arg Lys Trp Ala Gln Tyr Lys
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 Ser Thr Ser Cys Arg Ser Val Gln Val Leu Leu His Tyr Phe Val Gly
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 325 330 335
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 Leu Lys Ala His Gln Met Cys Phe Arg Asp Tyr Lys Tyr Arg Leu Ala
 370 375 380
 Lys Ser Thr Leu Val Leu Ile Pro Leu Leu Gly Val His Glu Ile Leu
 385 390 395 400
 Phe Ser Phe Ile Thr Asp Asp Gln Val Glu Gly Phe Ala Lys Leu Ile
 405 410 415
 Arg Leu Phe Ile Gln Leu Thr Leu Ser Ser Phe His Gly Phe Leu Val
 420 425 430
 Ala Leu Gln Tyr Gly Phe Ala Asn Gly Glu Val Lys Ala Glu Leu Arg
 435 440 445
 Lys Tyr Trp Val Arg Phe Leu Leu Ala Arg His Ser Gly Cys Arg Ala
 450 455 460
 Cys Val Leu Gly Lys Asp Phe Arg Phe Leu Gly Lys Cys Pro Lys Lys
 465 470 475 480
 Leu Ser Glu Gly Asp Gly Ala Glu Lys Leu Arg Lys Leu Gln Pro Ser
 485 490 495
 Leu Asn Ser Gly Arg Leu Leu His Leu Ala Met Arg Gly Leu Gly Glu
 500 505 510
 Leu Gly Ala Gln Pro Gln Gln Asp His Ala Arg Trp Pro Arg Gly Ser
 515 520 525
 Ser Leu Ser Glu Cys Ser Glu Gly Asp Val Thr Met Ala Asn Thr Met
 530 535 540
 Glu Glu Ile Leu Glu Glu Ser Glu Ile
 545 550

<210> 13
 <211> 463
 <212> PRT
 <213> Rattus norvegicus

<400> 13
 Met Ala Gly Ala Pro Gly Pro Leu Arg Leu Ala Leu Leu Leu Leu Gly
 1 5 10 15
 Met Val Gly Arg Ala Gly Pro Arg Pro Gln Gly Ala Thr Val Ser Leu
 20 25 30
 Trp Glu Thr Val Gln Lys Trp Arg Glu Tyr Arg Arg Gln Cys Gln Arg
 35 40 45
 Ser Leu Thr Glu Asp Pro Pro Pro Ala Thr Asp Leu Phe Cys Asn Arg
 50 55 60
 Thr Phe Asp Glu Tyr Ala Cys Trp Pro Asp Gly Glu Pro Gly Ser Phe
 65 70 75 80
 Val Asn Val Ser Cys Pro Trp Tyr Leu Pro Trp Ala Ser Ser Val Pro
 85 90 95
 Gln Gly His Val Tyr Arg Phe Cys Thr Ala Glu Gly Leu Trp Leu Gln
 100 105 110
 Lys Asp Asn Ser Ser Leu Pro Trp Arg Asp Leu Ser Glu Cys Glu Glu
 115 120 125
 Ser Lys Arg Gly Glu Arg Ser Ser Arg Glu Glu Gln Leu Leu Phe Leu
 130 135 140
 Tyr Ile Ile Tyr Thr Val Gly Tyr Ala Leu Ser Phe Ser Ala Leu Val
 145 150 155 160
 Ile Ala Ser Ala Ile Leu Leu Gly Phe Arg His Leu His Cys Thr Arg
 165 170 175
 Asn Tyr Ile His Leu Asn Leu Phe Ala Ser Phe Ile Leu Arg Ala Leu
 180 185 190
 Ser Val Phe Ile Lys Asp Ala Ala Leu Lys Trp Met Tyr Ser Thr Ala
 195 200 205
 Ala Gln Gln His Gln Trp Asp Gly Leu Leu Ser Tyr Gln Asp Ser Leu
 210 215 220
 Ser Cys Arg Leu Val Phe Leu Leu Met Gln Tyr Cys Val Ala Ala Asn
 225 230 235 240
 Tyr Tyr Trp Leu Leu Val Glu Gly Val Tyr Leu Tyr Thr Leu Leu Ala
 245 250 255
 Phe Ser Val Phe Ser Glu Gln Trp Ile Phe Arg Leu Tyr Val Ser Ile
 260 265 270

Gly Trp Gly Val Pro Leu Leu Phe Val Val Pro Trp Gly Ile Val Lys
 275 280 285
 Tyr Leu Tyr Glu Asp Glu Gly Cys Trp Thr Arg Asn Ser Asn Met Asn
 290 295 300
 Tyr Trp Leu Ile Ile Arg Leu Pro Ile Leu Phe Ala Ile Gly Val Asn
 305 310 315 320
 Phe Leu Ile Phe Val Arg Val Ile Cys Ile Val Val Ser Lys Leu Lys
 325 330 335
 Ala Asn Leu Met Cys Lys Thr Asp Ile Lys Cys Arg Leu Ala Lys Ser
 340 345 350
 Thr Leu Thr Leu Ile Pro Leu Leu Gly Thr His Glu Val Ile Phe Ala
 355 360 365
 Phe Val Met Asp Glu His Ala Arg Gly Thr Leu Arg Phe Ile Lys Leu
 370 375 380
 Phe Thr Glu Leu Ser Phe Thr Ser Phe Gln Gly Leu Met Val Ala Ile
 385 390 395 400
 Leu Tyr Cys Phe Val Asn Asn Glu Val Gln Leu Glu Phe Arg Lys Ser
 405 410 415
 Trp Glu Arg Trp Arg Leu Glu His Leu His Ile Gln Arg Asp Ser Ser
 420 425 430
 Met Lys Pro Leu Lys Cys Pro Thr Ser Ser Leu Ser Ser Gly Ala Thr
 435 440 445
 Ala Gly Ser Ser Met Tyr Thr Ala Thr Cys Gln Ala Ser Cys Ser
 450 455 460

<210> 14

<211> 14

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic primer

<400> 14

aaccactgc ttac

14

<210> 15

<211> 19

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic primer

<400> 15
cccagaatag aatgacacc

19

<210> 16
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
primer

<400> 16
caggggccgg tacctctcca ctcc

24

<210> 17
<211> 26
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
primer

<400> 17
ttgggtcctc gagtggccaa gctgcg

26

<210> 18
<211> 32
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
primer

<400> 18
gggtagtcgg tacctctaga gcaagttcag cc

32

<210> 19
<211> 31
<212> DNA
<213> Artificial Sequence

<220>
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primer

<400> 19
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31

<210> 20
<211> 42
<212> DNA
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primer

<400> 20
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<210> 21
<211> 42
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
primer

<400> 21
atgccagaag gttccttgag taagtcttcc agacatgcct gt 42

<210> 22
<211> 26
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
primer

<400> 22
ttcctctgtg gtaccaagag gaatgc 26

<210> 23
<211> 39
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
primer

<400> 23
ggtggactcg aggtaccgat ctcaactctct tccagaatc 39

<210> 24
<211> 26
<212> DNA
<213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic
 primer

<400> 24
 gtggagagga tttgtgcaaa catttc

26

<210> 25
 <211> 26
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic
 primer

<400> 25
 agagacattt ccaggagaag aatgag

26

<210> 26
 <211> 15
 <212> PRT
 <213> Rattus norvegicus

<400> 26
 Gln Thr Arg Glu Asn Thr Thr Asp Ile Trp Gln Asp Glu Ser Glu
 1 5 10 15

<210> 27
 <211> 13
 <212> PRT
 <213> Rattus norvegicus

<400> 27
 Ser Glu Gly Asp Gly Ser Glu Thr Leu Gln Lys Leu Arg
 1 5 10

<210> 28
 <211> 14
 <212> PRT
 <213> Rattus norvegicus

<400> 28
 Ser His Asn Ser Tyr Ser Lys Arg Pro Asp Asp Glu Ser Gly
 1 5 10